

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Title : Multi-Modal Forced Vortex Device  
Inventors : Gary Sewell  
Serial No : 10/730,611 § Examiner : Christopher Verdier  
Filed : 8 Dec 2003 § Phone : 571-272-4824  
Docket : 278-0002US § Art Unit : 3745  
Customer : 29855

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

CERTIFICATE OF TRANSMISSION (37 C.F.R. 1.8)  
This paper is being electronically transmitted to the  
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**March 2006.**  
/Melissa K. Mosby/  
Melissa K. Mosby

**REPLY TO OFFICE ACTION DATED 13 MARCH 2006**

This paper is intended to be a complete response to the above-identified Office Action. It is believed no fee is due. If fees are required, however, the Commissioner is authorized to deduct the necessary charges from Deposit Account 501922/278-0002US.

No claims have been added, cancelled or amended in this Reply. Accordingly, claims 1-34 are currently pending in the instant patent application.

**Restriction Requirement**

The Examiner alleges that the pending claims are directed to multiple inventions in accordance with 35 U.S.C. 121. Specifically, the Examiner alleges that the pending claims are directed to the following patentably distinct species of inventions:

- I. Figures 1-2 and 4-5.
- II. Figure 3.
- III. The embodiment where the vehicle is a submersible vehicle (not described in the specification, recited in claim 31).

... claims 1-2, 11-19, 23-29 and 32-34 appear to be generic. (Office Action at page 2.)

**Remarks**

The Examiner's Restriction Requirement is respectfully traversed in light of the following remarks and observations:

1. Species I (Figures 1, 2, 4 and 5) corresponds to generic claims 1-2, 11-19, 23-29 and 32-34 and to claims 3-10 and 20-22

Specifically, each of claims 3-10 and 22 (not identified as "generic" by the Examiner) are directed to various embodiments of "adjustable fluid passages" in accordance with independent generic claim 1. As described in paragraphs [0019]-[0022], adjustable fluid passages are used to varying the amount of fluid permitted to access the partially enclosed volume of FIGS. 1 and 2.

In addition, each of claims 20 and 21 (also not identified as "generic" by the Examiner) are directed to relatively small enhancements to the invention of independent generic claim 1. For example, the skirt of claim 20 is shown in FIG. 1 as element 115 and is described at paragraph [0017]. Similarly, the porous mesh of claim 21 is described in paragraph [0018] as a possible enhancement to the device of claim 1. In light of the written description at paragraphs [0017] and [0018], the subject matter of claims 20 and 21 is not believed to be patentably distinct from the subject matter of independent generic claim 1 from which they depend.

2. Species II (Figure 3) corresponds generally to generic claims 1 and 2 and further to claims 3-10

As described at paragraphs [0014] and [0021], FIG. 3 is directed to an embodiment wherein the "adjustable fluid passages" in accordance with independent generic claim 1 are implemented by a variable diameter iris mechanism. Accordingly, embodiments of FIG. 3 provide another means or technique to implement the claimed "adjustable fluid passages" of independent claim 1.

3. Species III (dependent claim 31) is described in sufficient detail to meet Assignee's obligation under 35 U.S.C. 112

The Examiner alleges that the claimed use of a multi-modal forced vortex device in accordance with independent generic claims 1 and 29 and dependent claim 31 is not described in the specification is incorrect. In paragraph [0022] Assignee teaches that the claimed "multi-modal forced vortex device 100 ... [may be] ... coupled to a vehicle." Earlier, in paragraph [0014], Assignee describes the term "vehicle" in its ordinary sense – "those of ordinary skill in the art will recognize a multi-modal forced vortex device in accordance with the invention can be coupled to a rigid body during use (e.g., a land, sea or aerial vehicle)." Thus, in light of the written description as a whole and these quotes specifically, one of ordinary skill in the art would understand and fully appreciate that the vehicle of independent generic claim 29 could be a submersible vehicle (i.e., a sea vehicle) in accordance with dependent claim 31.

4. Summary of Remarks and Request

Assignee believes the above remarks traverse each of the Examiner's contentions regarding the patentably distinct nature of the claimed invention. Accordingly, Assignee respectfully requests that all claims be examined.

5. Provisional Election

If the Examiner does not agree with the above characterization of the claimed subject matter and declines to grant Assignee's request (see point "5"), Assignee elects to pursue Species I as embodied in claims 1-29 and 32-34. (Generic claims 1-2, 11-19, 23-29 and 32-34 as identified by the Examiner and claims 3-10 and 20-22 as identified by Assignee with respect to FIGS. 1, 2, 4 and 5.)

If, after considering this Reply, the Examiner believes that a telephone conference would be beneficial towards advancing this case to allowance, the Examiner is strongly encouraged to contact the undersigned attorney at the number listed.

/Coe F. Miles/

22 March 2006

Coe F. Miles

Date

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